

**Amendments to the Claims:**

- 1           1.       (Original) A method for improving performance of an engine comprising:  
2           contacting contaminated liquid hydrocarbon fuel comprising an initial concentration  
3           of drag reducer additive ("DRA") with one or more effective DRA removal  
4           agent(s) under conditions effective to produce decontaminated liquid  
5           hydrocarbon fuel comprising a reduced concentration of said DRA; and,  
6           feeding said decontaminated liquid hydrocarbon fuel to said engine.
- 1           2.       (Original) The method of claim 1 wherein said one or more effective DRA  
2           removal agents achieve a % DRA removal of about 10% or more when 1 g of the DRA  
3           removal agent is added in increments with agitation to 100 ml. of contaminated liquid  
4           hydrocarbon fuel comprising from about 8 to about 12 ppm of unsheared target DRA.
- 1           3.       (Original) The method of claim 2 wherein said % DRA removal is about 20%  
2           or more.
- 1           4.       (Original) The method of claim 2 wherein said % DRA removal is about 30%  
2           or more.
- 1           5.       (Original) The method of claim 2 wherein said % DRA removal is about 40%  
2           or more.
- 1           6.       (Original) A method for improving performance of an engine comprising:  
2           contacting contaminated liquid hydrocarbon fuel comprising an initial concentration  
3           of drag reducer additive with one or more effective DRA removal agent(s)  
4           selected from the group consisting of graphites, activated carbons, fresh  
5           attapulgis clay, and combinations thereof, under conditions effective to

6 produce decontaminated liquid hydrocarbon fuel comprising a reduced  
7 concentration of said DRA; and,  
8 feeding said decontaminated liquid hydrocarbon fuel to said engine.

1 7. (Original) The method of claim 6 wherein said one or more DRA removal  
2 agents have an adsorption capacity of about 0.03 wt.% or more.

1 8. (Original) The method of claim 6 wherein said conditions comprise  
2 incremental addition of the DRA removal agent(s) and agitation of the resulting mixture.

1 9. (Original) The method of claim 6 wherein said conditions comprise  
2 passing the contaminated liquid hydrocarbon fuel through a bed comprising said one or  
3 more effective DRA removal agent(s).

1 10. (Original) The method of claim 9 wherein said contacting produces used  
2 DRA removal agent(s), said method further comprising replacing said used DRA removal  
3 agent(s) with fresh DRA removal agent(s).

1 11. (Original) The method of claim 6 wherein said contacting said contaminated  
2 liquid hydrocarbon fuel comprising an initial concentration of DRA with one or more  
3 effective DRA removal agent(s) occurs at a location selected from the group consisting of:  
4 at a refinery; between a refinery and a fuel terminal; at a fuel terminal; between two different  
5 fuel terminals; between a fuel terminal and an airport storage tank; at an airport storage tank;  
6 between a fuel terminal and a tanker truck; at a tanker truck; between an airport storage tank  
7 and a tanker truck; between two different tanker trucks; between a tanker truck and an  
8

8 engine, at a fuel dispenser; between a fuel dispenser and a vehicle comprising the engine;  
9 and, at the engine.

1 12. (Original) The method of claim 6 further comprising preheating said one or  
2 more removal agents prior to use under conditions effective to remove adsorbed water  
3 without damaging the removal agent(s).

1 13. (Currently amended) The method of claim 6 wherein said reduced  
2 concentration of DRA is sufficiently low to perform one or more function selected from the  
3 group consisting of permitting reignition of jet fuel after flameout, decreasing plugging of  
4 fuel filters, and reducing formation of deposits on engine components ~~selected from the~~  
5 ~~group consisting of intake valves, combustion chambers, and fuel injectors.~~

1 14. (Original) The method of claim 6 wherein said liquid hydrocarbon fuel has a  
2 boiling range of from about 150 °F to about 750 °F.

1 15. (Original) The method of claim 6 wherein said liquid hydrocarbon fuel is  
2 selected from the group consisting of liquefied natural gas (LNG), liquefied petroleum gas  
3 (LPG), motor gasoline, aviation gasoline, distillate fuels such as diesel fuel and home heating  
4 oil, kerosene, jet fuel, No. 2 oil, residual fuel, No. 6 fuel, or bunker fuel.

1 16. (Original) The method of claim 6 wherein said liquid hydrocarbon fuel is  
2 selected from the group consisting of diesel fuel, jet fuel, aviation gasoline, and motor  
3 gasoline.

1 17. (Original) The method of claim 6 wherein said liquid hydrocarbon fuel is jet  
2 fuel.

1 18. (Original) The method of claim 17 wherein said reduced concentration of

2 DRA is sufficiently low to permit reignition of jet fuel after flameout.

1 19. (Original) The method of claim 6 wherein said drag reducer additive  
2 comprises a polyalphaolefin having a peak molecular weight of about 1 million Daltons  
3 or more.

1 20. (Original) The method of claim 18 wherein said polyalphaolefin has a  
2 peak molecular weight of about 10 million Daltons or more.

1 21. (Original) The method of claim 6 wherein said DRA comprises two  
2 different linear alpha olefins (LAO's) or more having from about 6 to about 12 carbon  
3 atoms, the number of carbon atoms of the at least two different LAO's differing by 6.

1 22. (Original) The method of claim 6 wherein said DRA comprises one or  
2 more polyalphaolefins made by solution polymerization.

1 23. (Original) The method of claim 6 wherein said DRA comprises polar  
2 groups.

1 24. (Original) The method of claim 23 wherein said DRA comprises organic  
2 polar groups.

1 25. (Original) The method of claim 23 wherein said polar groups comprise a  
2 moiety selected from the group consisting of oxygen, sulfur, nitrogen, halogen,  
3 phosphorus, unsaturated carbon-carbon bonds, and combinations thereof.

1 26. (Original) The method of claim 24 wherein said organic polar groups  
2 comprise a moiety selected from the group consisting of oxygen, sulfur, nitrogen,  
3 halogen, phosphorus, unsaturated carbon-carbon bonds, and combinations thereof.

1 27. (Original) A method for improving performance of an engine comprising:

2 contacting contaminated liquid hydrocarbon fuel comprising an initial concentration  
3 of drag reducer additive ("DRA") with one or more effective DRA removal  
4 agent comprising graphite under conditions effective to produce  
5 decontaminated liquid hydrocarbon fuel comprising a reduced concentration  
6 of said DRA; and,

7 feeding said decontaminated liquid hydrocarbon fuel to said engine.

1 28. (Original) The method of claim 27 wherein said graphite is selected from the  
2 group consisting of graphite powders and graphite particulates having an adsorption capacity  
3 of about 0.01 wt.% or more.

1 29. (Currently amended) The method of claim 27 wherein said graphite comprises  
2 granules having an average diameter of from about 0.01 microns to about 10,000 microns.

1 30. (Currently amended) The method of claim 28 wherein said graphite comprises  
2 granules having an average diameter of from about 0.01 microns to about 10,000 microns.

1 31. (Currently amended) The method of claim 27 wherein said graphite comprises  
2 granules having an average diameter of from about 0.1 microns to about 1,000 microns.

1 32. (Currently amended) The method of claim 28 wherein said graphite comprises  
2 granules having an average diameter of from about 0.1 microns to about 1,000 microns.

1 33. (Currently amended) The method of claim 27 wherein said graphite comprises  
2 granules having an average diameter of from about 1 micron to about 100 microns.

1 34. (Currently amended) The method of claim 28 wherein said graphite comprises  
2 granules having an average diameter of from about 1 micron to about 100 microns.

1           35.    (Original) The method of claim 27 wherein said graphite is selected from the  
2   group consisting of graphite powders and graphite particulates having an adsorption capacity  
3   of about 0.03 wt.% or more.

1           36.    (Original) The method of claim 29 wherein said adsorption capacity is about  
2   0.03 wt.% or more.

1           37.    (Original) The method of claim 32 wherein said adsorption capacity is about  
2   0.03 wt.% or more.

1           38.    (Original) The method of claim 34 wherein said adsorption capacity is about  
2   0.03 wt.% or more.

1           39.    (Original) The method of claim 9 wherein said adsorption capacity is about  
2   0.04 wt% or more.

1           40.    (Original) The method of claim 27 wherein said adsorption capacity is about  
2   0.04 wt%.

1           41.    (Original) The method of claim 27 wherein said graphite is selected from the  
2   group consisting of natural graphites, synthetic graphites, expanded graphites, and  
3   combinations thereof.

1           42.    (Original) The method of claim 41 wherein said graphite is selected from the  
2   group consisting of purified carbon, natural graphite, silica (crystalline quartz), synthetic  
3   graphite, and combinations thereof.

1           43.    (Original) The method of claim 35 wherein said graphite is selected from the  
2   group consisting of purified carbon, natural graphite, silica (crystalline quartz), synthetic  
3   graphite, and combinations thereof.

1           44.   (Original) The method of claim 28 wherein said conditions comprise  
2   incremental addition of the DRA removal agent(s) and agitation of the resulting mixture.

1           45.   (Original) The method of claim 28 wherein said conditions comprise  
2   passing the contaminated liquid hydrocarbon fuel through a bed comprising said one or  
3   more effective DRA removal agent(s).

1           46.   (Original) The method of claim 45 wherein said contacting produces used  
2   DRA removal agent(s), said method further comprising replacing said used DRA removal  
3   agent(s) with fresh DRA removal agent(s).

1           47.   (Original) The method of claim 28 wherein said contacting said contaminated  
2   liquid hydrocarbon fuel comprising an initial concentration of DRA with one or more  
3   effective DRA removal agent(s) occurs at a location selected from the group consisting of:  
4   at a refinery; between a refinery and a fuel terminal; at a fuel terminal; between two different  
5   fuel terminals; between a fuel terminal and an airport storage tank; at an airport storage tank;  
6   between a fuel terminal and a tanker truck; at a tanker truck; between an airport storage tank  
7   and a tanker truck; between two different tanker trucks; between a tanker truck and an  
8   engine, at a fuel dispenser; between a fuel dispenser and a vehicle comprising the engine;  
9   and, at the engine.

1           48.   (Original) The method of claim 28 further comprising preheating said one or  
2   more removal agents prior to use under conditions effective to remove adsorbed water  
3   without damaging the removal agent(s).

1           49. (Currently amended) The method of claim 28 wherein said reduced  
2 concentration of DRA is sufficiently low to perform one or more function selected from the  
3 group consisting of permitting reignition of jet fuel after flameout, decreasing plugging of  
4 fuel filters, and reducing formation of deposits on engine components ~~selected from the~~  
5 ~~group consisting of intake valves, combustion chambers, and fuel injectors.~~

1           50. (Original) The method of claim 28 wherein said liquid hydrocarbon fuel has a  
2 boiling range of from about 150 °F to about 750 °F.

1           51. (Original) The method of claim 28 wherein said liquid hydrocarbon fuel is  
2 selected from the group consisting of liquefied natural gas (LNG), liquefied petroleum gas  
3 (LPG), motor gasoline, aviation gasoline, distillate fuels such as diesel fuel and home heating  
4 oil, kerosene, jet fuel, No. 2 oil, residual fuel, No. 6 fuel, or bunker fuel.

1           52. (Original) The method of claim 28 wherein said liquid hydrocarbon fuel is  
2 selected from the group consisting of diesel fuel, jet fuel, aviation gasoline, and motor  
3 gasoline.

1           53. (Original) The method of claim 28 wherein said liquid hydrocarbon fuel is jet  
2 fuel.

1           54. (Original) The method of claim 53 wherein said reduced concentration of  
2 DRA is sufficiently low to permit reignition of jet fuel after flameout.

1           55. (Original) The method of claim 28 wherein said drag reducer additive  
2 comprises a polyalphaolefin having a peak molecular weight of about 1 million Daltons  
3 or more.

1           56. (Original) The method of claim 54 wherein said polyalphaolefin has a



2 peak molecular weight of about 10 million Daltons or more.

1 57. (Original) The method of claim 28 wherein said DRA comprises two  
2 different linear alpha olefins (LAO's) or more having from about 6 to about 12 carbon  
3 atoms, the number of carbon atoms of the at least two different LAO's differing by 6.

1 58. (Original) The method of claim 28 wherein said DRA comprises one or  
2 more polyalphaolefins made by solution polymerization.

1 59. (Original) The method of claim 28 wherein said DRA comprises polar  
2 groups.

1 60. (Original) The method of claim 59 wherein said DRA comprises organic  
2 polar groups.

1 61. (Original) The method of claim 59 wherein said polar groups comprise a  
2 moiety selected from the group consisting of oxygen, sulfur, nitrogen, halogen,  
3 phosphorus, unsaturated carbon-carbon bonds, and combinations thereof.

1 62. (Original) The method of claim 60 wherein said organic polar groups  
2 comprise a moiety selected from the group consisting of oxygen, sulfur, nitrogen, halogen,  
3 phosphorus, unsaturated carbon-carbon bonds, and combinations thereof.

1 63. (Original) A method for improving performance of an engine comprising:  
2 contacting contaminated liquid hydrocarbon fuel comprising an initial concentration  
3 of drag reducer additive ("DRA") with one or more effective DRA removal  
4 agent(s) comprising activated carbon under conditions effective to produce  
5 decontaminated liquid hydrocarbon fuel comprising a reduced concentration  
6 of said DRA; and,

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7 feeding said decontaminated liquid hydrocarbon fuel to said engine.

1 64. (Original) The method of claim 63 wherein said activated carbon has an  
2 adsorption capacity of about 0.01 wt.% or more.

1 65. (Original) The method of claim 63 wherein said activated carbon has an  
2 adsorption capacity of about 0.02 wt.% or more.

1 66. (Original) The method of claim 63 wherein said activated carbon has an  
2 adsorption capacity of about 0.03 wt.% or more.

1 67. (Original) The method of claim 64 wherein said conditions comprise  
2 incremental addition of the DRA removal agent(s) and agitation of the resulting mixture.

1 68. (Original) The method of claim 64 wherein said conditions comprise  
2 passing the contaminated liquid hydrocarbon fuel through a bed comprising said one or  
3 more effective DRA removal agent(s).

1 69. (Original) The method of claim 68 wherein said contacting produces used  
2 DRA removal agent(s), said method further comprising replacing said used DRA removal  
3 agent(s) with fresh DRA removal agent(s).

1 70. (Original) The method of claim 64 wherein said contacting said contaminated  
2 liquid hydrocarbon fuel comprising an initial concentration of DRA with one or more  
3 effective DRA removal agent(s) occurs at a location selected from the group consisting of:  
4 at a refinery; between a refinery and a fuel terminal; at a fuel terminal; between two different  
5 fuel terminals; between a fuel terminal and an airport storage tank; at an airport storage tank;  
6 between a fuel terminal and a tanker truck; at a tanker truck; between an airport storage tank  
7

7 and a tanker truck; between two different tanker trucks; between a tanker truck and an  
8 engine, at a fuel dispenser; between a fuel dispenser and a vehicle comprising the engine;  
9 and, at the engine.

1 71. (Original) The method of claim 64 further comprising preheating said one or  
2 more removal agents prior to use under conditions effective to remove adsorbed water  
3 without damaging the removal agent(s).

1 72. (Currently amended) The method of claim 64 wherein said reduced  
2 concentration of DRA is sufficiently low to perform one or more function selected from the  
3 group consisting of permitting reignition of jet fuel after flameout, decreasing plugging of  
4 fuel filters, and reducing formation of deposits on engine components ~~selected from the~~  
5 ~~group consisting of intake valves, combustion chambers, and fuel injectors.~~

1 73. (Original) The method of claim 64 wherein said liquid hydrocarbon fuel has a  
2 boiling range of from about 150 °F to about 750 °F.

1 74. (Original) The method of claim 64 wherein said liquid hydrocarbon fuel is  
2 selected from the group consisting of liquefied natural gas (LNG), liquefied petroleum gas  
3 (LPG), motor gasoline, aviation gasoline, distillate fuels such as diesel fuel and home heating  
4 oil, kerosene, jet fuel, No. 2 oil, residual fuel, No. 6 fuel, or bunker fuel.

1 75. (Original) The method of claim 64 wherein said liquid hydrocarbon fuel is  
2 selected from the group consisting of diesel fuel, jet fuel, aviation gasoline, and motor  
3 gasoline.

1 76. (Original) The method of claim 64 wherein said liquid hydrocarbon fuel is jet  
2 fuel.

1           77.    (Original) The method of claim 76 wherein said reduced concentration of  
2   DRA is sufficiently low to permit reignition of jet fuel after flameout.

1           78.    (Original) The method of claim 64 wherein said drag reducer additive  
2   comprises a polyalphaolefin having a peak molecular weight of about 1 million Daltons  
3   or more.

1           79.    (Original) The method of claim 77 wherein said polyalphaolefin has a  
2   peak molecular weight of about 10 million Daltons or more.

1           80.    (Original) The method of claim 64 wherein said DRA comprises two  
2   different linear alpha olefins (LAO's) or more having from about 6 to about 12 carbon  
3   atoms, the number of carbon atoms of the at least two different LAO's differing by 6.

1           81.    (Original) The method of claim 64 wherein said DRA comprises one or  
2   more polyalphaolefins made by solution polymerization.

1           82.    (Original) The method of claim 64 wherein said DRA comprises polar  
2   groups.

1           83.    (Original) The method of claim 82 wherein said DRA comprises organic  
2   polar groups.

1           84.    (Original) The method of claim 82 wherein said polar groups comprise a  
2   moiety selected from the group consisting of oxygen, sulfur, nitrogen, halogen,  
3   phosphorus, unsaturated carbon-carbon bonds, and combinations thereof.

1           85.    (Original) The method of claim 83 wherein said organic polar groups  
2   comprise a moiety selected from the group consisting of oxygen, sulfur, nitrogen, halogen,  
3   phosphorus, unsaturated carbon-carbon bonds, and combinations thereof.

1           86.   (Original) A method for improving performance of an engine comprising:  
2           contacting contaminated liquid hydrocarbon fuel comprising an initial concentration  
3           of DRA with fresh attapulgis clay under conditions effective to produce  
4           decontaminated liquid hydrocarbon fuel comprising a reduced concentration  
5           of said DRA; and,

6           feeding said decontaminated liquid hydrocarbon fuel to said engine.

1           87.   (Original) The method of claim 86 wherein said fresh attapulgis clay is  
2           effective to remove about 10% or more of said DRA when 1 g of the fresh attapulgis clay is  
3           added in increments of from about 0.02 gram to about 0.1 gram, with agitation, to 100 ml. of  
4           contaminated liquid hydrocarbon fuel comprising from about 8 to about 12 ppm of the  
5           unsheared DRA.

1           88.   (Original) The method of claim 87 wherein said fresh attapulgis clay  
2           comprises granules, a majority of said granules having a mesh size of from about 30 to about  
3           90.

1           89.   (Original) The method of claim 87 wherein said conditions comprise  
2           incremental addition of the DRA removal agent(s) and agitation of the resulting mixture.

1           90.   (Original) The method of claim 87 wherein said conditions comprise  
2           passing the contaminated liquid hydrocarbon fuel through a bed comprising said one or  
3           more effective DRA removal agent(s).

1           91.   (Original) The method of claim 90 wherein said contacting produces used  
2           DRA removal agent(s), said method further comprising replacing said used DRA removal  
3

3 agent(s) with fresh DRA removal agents.

1 92. (Original) The method of claim 87 wherein said contacting said contaminated  
2 liquid hydrocarbon fuel comprising an initial concentration of DRA with one or more  
3 effective DRA removal agent(s) occurs at a location selected from the group consisting of:  
4 at a refinery; between a refinery and a fuel terminal; at a fuel terminal; between two different  
5 fuel terminals; between a fuel terminal and an airport storage tank; at an airport storage tank;  
6 between a fuel terminal and a tanker truck; at a tanker truck; between an airport storage tank  
7 and a tanker truck; between two different tanker trucks; between a tanker truck and an  
8 engine, at a fuel dispenser; between a fuel dispenser and a vehicle comprising the engine;  
9 and, at the engine.

1 93. (Original) The method of claim 87 further comprising preheating said one or  
2 more removal agents prior to use under conditions effective to remove adsorbed water  
3 without damaging the removal agent(s).

1 94. (Currently amended) The method of claim 87 wherein said reduced  
2 concentration of DRA is sufficiently low to perform one or more function selected from the  
3 group consisting of permitting reignition of jet fuel after flameout, decreasing plugging of  
4 fuel filters, and reducing formation of deposits on engine components selected from the  
5 group consisting of intake valves, combustion chambers, and fuel injectors.

1 95. (Original) The method of claim 87 wherein said liquid hydrocarbon fuel has a  
2 boiling range of from about 150 °F to about 750 °F.

1 96. (Original) The method of claim 87 wherein said liquid hydrocarbon fuel is  
2 selected from the group consisting of liquefied natural gas (LNG), liquefied petroleum gas

3 (LPG), motor gasoline, aviation gasoline, distillate fuels such as diesel fuel and home heating  
4 oil, kerosene, jet fuel, No. 2 oil, residual fuel, No. 6 fuel, or bunker fuel.

1 97. (Original) The method of claim 87 wherein said liquid hydrocarbon fuel is  
2 selected from the group consisting of diesel fuel, jet fuel, aviation gasoline, and motor  
3 gasoline.

1 98. (Original) The method of claim 87 wherein said liquid hydrocarbon fuel is jet  
2 fuel.

1 99. (Original) The method of claim 98 wherein said reduced concentration of  
2 DRA is sufficiently low to permit reignition of jet fuel after flameout.

1 100. (Original) The method of claim 87 wherein said drag reducer additive  
2 comprises a polyalphaolefin having a peak molecular weight of about 1 million Daltons  
3 or more.

1 101. (Original) The method of claim 99 wherein said polyalphaolefin has a  
2 peak molecular weight of about 10 million Daltons or more.

1 102. (Original) The method of claim 87 wherein said DRA comprises two  
2 different linear alpha olefins (LAO's) or more having from about 6 to about 12 carbon  
3 atoms, the number of carbon atoms of the at least two different LAO's differing by 6.

1 103. (Original) The method of claim 87 wherein said DRA comprises one or  
2 more polyalphaolefins made by solution polymerization.

1 104. (Original) The method of claim 87 wherein said DRA comprises polar  
2 groups.

1 105. (Original) The method of claim 104 wherein said DRA comprises organic

2 polar groups.

1 106. (Original) The method of claim 104 wherein said polar groups comprise a  
2 moiety selected from the group consisting of oxygen, sulfur, nitrogen, halogen,  
3 phosphorus, unsaturated carbon-carbon bonds, and combinations thereof.

1 107. (Original) The method of claim 104 wherein said organic polar groups  
2 comprise a moiety selected from the group consisting of oxygen, sulfur, nitrogen,  
3 halogen, phosphorus, unsaturated carbon-carbon bonds, and combinations thereof.

1 108. (New) A method for reigniting jet fuel previously contaminated with DRA  
2 after flameout comprising:

3 feeding to a jet engine decontaminated jet fuel comprising a reduced concentration of  
4 DRA, said reduced concentration of DRA being produced by contacting  
5 contaminated jet fuel comprising an initial concentration of DRA with one or  
6 more effective DRA removal agent(s) under conditions effective to produce  
7 said decontaminated jet fuel; and,

8 feeding said decontaminated jet fuel to a jet engine, said reduced concentration of  
9 DRA being sufficiently low to permit reignition of jet fuel after flameout.

1 109. (New) The method of claim 108 wherein said one or more effective DRA  
2 removal agents achieve a % DRA removal of about 10% or more when 1 g of the DRA  
3 removal agent is added in increments with agitation to 100 ml. of contaminated jet fuel  
4 comprising from about 8 to about 12 ppm of unsheared target DRA.

1 110. (New) The method of claim 109 wherein said % DRA removal is about 20%  
2 or more.



1           111. (New) The method of claim 109 wherein said % DRA removal is about 30%  
2 or more.

1           112. (New) The method of claim 109 wherein said % DRA removal is about 40%  
2 or more.

1           113. (New) The method of claim 108 wherein said one or more effective DRA  
2 removal agent(s) are selected from the group consisting of graphites, activated carbons, fresh  
3 attapulugus clay, and combinations thereof.

1           114. (New) The method of claim 113 wherein said one or more DRA removal  
2 agents have an adsorption capacity of about 0.03 wt.% or more.

1           115. (New) The method of claim 113 wherein said conditions comprise  
2 incremental addition of the DRA removal agent(s) and agitation of the resulting mixture.

1           116 (New) The method of claim 113 wherein said conditions comprise  
2 passing the contaminated jet fuel through a bed comprising said one or more effective  
3 DRA removal agent(s).

1           117. (New) The method of claim 116 wherein said contacting produces used  
2 DRA removal agent(s), said method further comprising replacing said used DRA removal  
3 agent(s) with fresh DRA removal agent(s).

1           118. (New) The method of claim 113 wherein said contacting said contaminated  
2 jet fuel comprising an initial concentration of DRA with one or more effective DRA removal  
3 agent(s) occurs at a location selected from the group consisting of: at a refinery; between a  
4 refinery and a fuel terminal; at a fuel terminal; between two different fuel terminals; between  
5 a fuel terminal and an airport storage tank; at an airport storage tank; between a fuel terminal

6 and a tanker truck; at a tanker truck; between an airport storage tank and a tanker truck;  
7 between two different tanker trucks; between a tanker truck and an engine, at a fuel  
8 dispenser; between a fuel dispenser and a jet; at the jet engine .

1 119. (New) The method of claim 113 further comprising preheating said one or  
2 more removal agents prior to use under conditions effective to remove adsorbed water  
3 without damaging the removal agent(s).

1 120. (New) The method of claim 113 wherein said drag reducer additive  
2 comprises a polyalphaolefin having a peak molecular weight of about 1 million Daltons  
3 or more.

1 121. (New) The method of claim 113 wherein said polyalphaolefin has a peak  
2 molecular weight of about 10 million Daltons or more.

1 122. (New) The method of claim 113 wherein said DRA comprises two  
2 different linear alpha olefins (LAO's) or more having from about 6 to about 12 carbon  
3 atoms, the number of carbon atoms of the at least two different LAO's differing by 6.

1 123. (New) The method of claim 113 wherein said DRA comprises one or more  
2 polyalphaolefins made by solution polymerization.

1 124. (New) The method of claim 113 wherein said DRA comprises polar  
2 groups.

1 125. (New) The method of claim 124 wherein said DRA comprises organic  
2 polar groups.

1 126. (New) The method of claim 124 wherein said polar groups comprise a  
2 moiety selected from the group consisting of oxygen, sulfur, nitrogen, halogen,

3 phosphorus, unsaturated carbon-carbon bonds, and combinations thereof.

1 127. (New) The method of claim 125 wherein said organic polar groups  
2 comprise a moiety selected from the group consisting of oxygen, sulfur, nitrogen,  
3 halogen, phosphorus, unsaturated carbon-carbon bonds, and combinations thereof.

1 128. (New) The method of claim 108 wherein said one or more effective DRA  
2 removal agent(s) comprise graphite.

1 129. (New) The method of claim 128 wherein said graphite achieves a % DRA  
2 removal of about 10% or more when 1 g of graphite is added in increments with agitation to  
3 100 ml. of contaminated jet fuel comprising from about 8 to about 12 ppm of unsheared  
4 target DRA.

1 130. (New) The method of claim 128 wherein said % DRA removal is about 20%  
2 or more.

1 131. (New) The method of claim 128 wherein said % DRA removal is about 30%  
2 or more.

1 132. (New) The method of claim 128 wherein said % DRA removal is about 40%  
2 or more.

1 133. (New) The method of claim 128 wherein said graphite is selected from the  
2 group consisting of graphite powders and graphite particulates having an adsorption capacity  
3 of about 0.01 wt.% or more.

1 134. (New) The method of claim 128 wherein said graphite comprises granules.

1 135. (New) The method of claim 128 wherein said graphite comprises granules  
2 having an average diameter of from about 0.1 microns to about 1,000 microns.

1           136. (New) The method of claim 128 wherein said graphite comprises granules.

1           137. (New) The method of claim 128 wherein said graphite is selected from the  
2 group consisting of graphite powders and graphite particulates having an adsorption capacity  
3 of about 0.03 wt.% or more.

1           138. (New) The method of claim 128 wherein said conditions comprise  
2 incremental addition of the DRA removal agent(s) and agitation of the resulting mixture.

1           139. (New) The method of claim 128 wherein said conditions comprise passing  
2 the contaminated jet fuel through a bed comprising said one or more effective DRA  
3 removal agent(s).

1           140. (New) The method of claim 139 wherein said contacting produces used  
2 DRA removal agent(s), said method further comprising replacing said used DRA removal  
3 agent(s) with fresh DRA removal agent(s).

1           141. (New) The method of claim 128 further comprising preheating said one or  
2 more removal agents prior to use under conditions effective to remove adsorbed water  
3 without damaging the removal agent(s).

1           142. (New) The method of claim 128 wherein said drag reducer additive  
2 comprises a polyalphaolefin having a peak molecular weight of about 1 million Daltons  
3 or more.

1           143. (New) The method of claim 128 wherein said polyalphaolefin has a peak  
2 molecular weight of about 10 million Daltons or more.

1           144. (New) The method of claim 128 wherein said DRA comprises two  
2 different linear alpha olefins (LAO's) or more having from about 6 to about 12 carbon

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3 atoms, the number of carbon atoms of the at least two different LAO's differing by 6.

1 145. (New) The method of claim 128 wherein said DRA comprises one or more  
2 polyalphaolefins made by solution polymerization.

1 146. (New) The method of claim 128 wherein said DRA comprises polar  
2 groups.

1 147. (New) The method of claim 128 wherein said DRA comprises organic  
2 polar groups.

1 148. (New) The method of claim 146 wherein said polar groups comprise a  
2 moiety selected from the group consisting of oxygen, sulfur, nitrogen, halogen,  
3 phosphorus, unsaturated carbon-carbon bonds, and combinations thereof.

1 149. (New) The method of claim 108 wherein said one or more effective DRA  
2 removal agent comprises activated carbon.

1 150. (New) The method of claim 149 wherein said conditions comprise  
2 incremental addition of the DRA removal agent(s) and agitation of the resulting mixture.

1 151. (New) The method of claim 149 wherein said conditions comprise passing  
2 the contaminated liquid hydrocarbon fuel through a bed comprising said one or more  
3 effective DRA removal agent(s).

1 152. (New) The method of claim 149 wherein said contacting produces used  
2 DRA removal agent(s), said method further comprising replacing said used DRA removal  
3 agent(s) with fresh DRA removal agent(s).

1           153. (New) The method of claim 149 further comprising preheating said one or  
2 more removal agents prior to use under conditions effective to remove adsorbed water  
3 without damaging the removal agent(s).

1           154. (New) The method of claim 149 wherein said drag reducer additive  
2 comprises a polyalphaolefin having a peak molecular weight of about 1 million Daltons  
3 or more.

1           155. (New) The method of claim 149 wherein said polyalphaolefin has a peak  
2 molecular weight of about 10 million Daltons or more.

1           156. (New) The method of claim 149 wherein said DRA comprises two  
2 different linear alpha olefins (LAO's) or more having from about 6 to about 12 carbon  
3 atoms, the number of carbon atoms of the at least two different LAO's differing by 6.

1           157. (New) The method of claim 149 wherein said DRA comprises one or more  
2 polyalphaolefins made by solution polymerization.

1           158. (New) The method of claim 149 wherein said DRA comprises polar  
2 groups.

1           159. (New) The method of claim 149 wherein said DRA comprises organic  
2 polar groups.

1           160. (New) The method of claim 149 wherein said polar groups comprise a  
2 moiety selected from the group consisting of oxygen, sulfur, nitrogen, halogen,  
3 phosphorus, unsaturated carbon-carbon bonds, and combinations thereof.

1           161. (New) The method of claim 149 wherein said activated carbon has an  
2 adsorption capacity of about 0.01 wt.% or more.

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1           162. (New) The method of claim 149 wherein said activated carbon has an  
2           adsorption capacity of about 0.02 wt.% or more.

1           163. (New) The method of claim 149 wherein said activated carbon has an  
2           adsorption capacity of about 0.03 wt.% or more.

1           164. (New) The method of claim 149 wherein said activated carbon achieves a %  
2           DRA removal of about 10% or more when 1 g of activated carbon is added in increments  
3           with agitation to 100 ml. of contaminated jet fuel comprising from about 8 to about 12 ppm  
4           of unsheared target DRA.

1           165. (New) The method of claim 149 wherein said % DRA removal is about 20%  
2           or more.

1           166. (New) The method of claim 128 wherein said % DRA removal is about 30%  
2           or more.

1           167. (New) The method of claim 108 wherein said one or more effective DRA  
2           removal agent comprises fresh attapulugus clay.

1           168. (New) The method of claim 167 wherein said fresh attapulugus clay comprises  
2           granules, a majority of said granules having a mesh size of from about 30 to about 90.

1           169. (New) The method of claim 167 wherein said conditions comprise  
2           incremental addition of the DRA removal agent(s) and agitation of the resulting mixture.

1           170. (New) The method of claim 167 wherein said conditions comprise passing  
2           the contaminated jet fuel through a bed comprising said one or more effective DRA  
3           removal agent(s).

1           171. (New) The method of claim 167 wherein said contacting produces used

2 DRA removal agent(s), said method further comprising replacing said used DRA removal  
3 agent(s) with fresh DRA removal agent(s).

1 172. (New) The method of claim 167 further comprising preheating said one or  
2 more removal agents prior to use under conditions effective to remove adsorbed water  
3 without damaging the removal agent(s).

1 173. (New) The method of claim 167 wherein said drag reducer additive  
2 comprises a polyalphaolefin having a peak molecular weight of about 1 million Daltons  
3 or more.

1 174. (New) The method of claim 167 wherein said polyalphaolefin has a peak  
2 molecular weight of about 10 million Daltons or more.

1 175. (New) The method of claim 167 wherein said DRA comprises two  
2 different linear alpha olefins (LAO's) or more having from about 6 to about 12 carbon  
3 atoms, the number of carbon atoms of the at least two different LAO's differing by 6.

1 176. (New) The method of claim 167 wherein said DRA comprises one or more  
2 polyalphaolefins made by solution polymerization.

1 177. (New) The method of claim 167 wherein said DRA comprises polar  
2 groups.

1 178. (New) The method of claim 167 wherein said DRA comprises organic  
2 polar groups.

1 179. (New) The method of claim 167 wherein said polar groups comprise a  
2 moiety selected from the group consisting of oxygen, sulfur, nitrogen, halogen,  
3 phosphorus, unsaturated carbon-carbon bonds, and combinations thereof.

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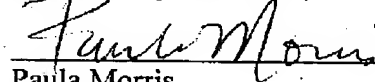


1           180. (New) The method of claim 167 wherein said fresh attapulugus clay achieves a  
2   % DRA removal of about 10% or more when 1 g of fresh attapulugus clay is added in  
3   increments with agitation to 100 ml. of contaminated jet fuel comprising from about 8 to  
4   about 12 ppm of unsheared target DRA.

1           181. (New) The method of claim 167 wherein said % DRA removal is about 20%  
2   or more.

1           182. (New) The method of claim 167 wherein said % DRA removal is about 30%  
2   or more.

Respectfully submitted,



Paula Morris

Reg. No. 31,516

Paula D. Morris & Associates, P.C.

10260 Westheimer, Suite 360

Houston, Texas 77042

Telephone: (713) 334-5151

Facsimile: (713) 334-5157

ATTORNEY FOR APPLICANTS